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On the Effects of the Earthquake of March, 1872, in the Yosemite Valley.

John Muir

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May 15, 1872.

Dr. S. Kneeland read extracts from a letter from Mr. John Muir, on the effects of the earthquake of March 26, 1872, in the Yosemite Valley.

The earthquake storm in the Yosemite began Tuesday, March 26, 1872, at 2 1/2 A.M. People were shaken out of bed, and the floors shook like the deck of a vessel at sea. First shock lasted about three minutes and with great energy and motion, undiminished to the end. For the first minute no sound but the agitation of the trees. Expected "Sentinel Rock," a high isolated pinnacle, would fall, but at last from the south side of the valley opposite Yosemite falls, there came a tremendous sound. Eagle Rock had fallen two thousand feet, and was pouring in an avalanche of boulders over precipices, and through forests of fir and spruce, filling the valley with a smoke of fire and rock dust, and countless reverberations and echoes. Sky clear and moon bright, so that the outlines of the rocks, trees and meadows could be plainly seen; trees greatly agitated, in strange, indeterminate, motions; frogs silenced for the time, but before the dust had settled, or the echoes had died away, an owl began to hoot from the very edge of the fallen rocks, as if unconscious of any extraordinary disturbance. River soon after was found to be muddy from portions of its banks shaken into it, but otherwise flowed as peacefully, in the same direction, as ever. Upper Yosemite did not seem to show the slightest agitation.

First shock followed at intervals of a few minutes by sharp concussions, each attended by gentle undulations, and by occasional smooth rumbling ^sounds from deep in the mountains, in a northern direction, not always readily distinguishable from the heavy sounds formed at the foot of the Upper Yosemite. Second well defined shock about an hour after first, followed by another rock avalanche from the region of Eagle Rock. A third severe shock, a few minutes after sunrise,

in which the movements were less sharp and quick, and a few lateral and vertical joltings, followed by a series of short undulations or quiverings, causing the light-branched and leafless oaks to whip their upper branches as if struck by a powerful force near the ground.

Rocks of size of thirty feet in diameter downward, coming to rest at a long rough slope at the foot of the vertical well, covering a portion of a larger slope made centuries ago, destroyed a great number of trees, firs, pines, spruces, maples, laurels, etc., filling the air with a balsamic fragrance from their bruised trunks and branches. Trees four feet in diameter broken clear across in lengths of ten to fifteen feet, and cast in drifts like straws; others battered and flattened like crushed sugar canes; some had their tops cut smoothly off seventy to one hundred feet from the ground by large fragments bounding above the main avalanche like the spray of a water fall.

Other avalanches occurred in Indian Canyon, on the west side of the Cap of Liberty, and in Illilouette Canyon. The walls were not more changed by this earthquake than Mirror Lake by a passing storm. Only visible changes, a few whitish, fresh rock patches on the dark walls, and a new small rock front, capped with spires, where Eagle Rock fell. The day following was cool and calm and bright; animate nature appeared the same; some two or three were frightened out of the valley. Innumerable shocks during the 26th to 27th, but not more than fifty were noticeable, unless by persons watching for them.

First shock by far the most severe. Watched the movements of a pail of water for hours. Noticed vibrations of considerable regularity in a north and south direction, seeming to be produced by impulses from the north acting horizontally, with the velocity of a blow.

North and south vibrations constantly interrupted by impulses which seemed to proceed mostly from an easterly direction. A few circular, twisting motions were noticed; the surface of the water also at times dimpled and trembled as if receiving a succession of sharp blows from below. The rumbling under-mountain sounds were distinctly heard by everybody in the valley, and always as coming from the north.